

Abstract

There is provided an inexpensive rolling element used under high interface pressure such as induction hardened gears, the rolling element being improved in the seizure resistance of its tooth flanks and having a temper hardness of HRC 50 or more at 300°C. To this end, the rolling element is made from a steel material containing at least 0.45 to 1.5 wt% C and one or more alloy elements selected from 0.1 to 0.5 wt% V and 0.3 to 1.5 wt% Cr, and has a rolling contact surface layer having a structure tempered at low temperature in which 2 to 18% by volume cementite disperses in a martensite parent phase formed by induction heating and cooling and containing 0.25 to 0.8 wt% carbon solid-dissolving therein.